AMENDMENTS TO THE CLAIMS

(IN FORMAT COMPLIANT WITH THE REVISED 37 CFR 1.121)

Please add new claims 20-23.

1.   (CURRENTLY AMENDED) An apparatus comprising:

a tuner circuit configured to generate an intermediate frequency signal having a carrier signal at a first intermediate frequency in response to a first frequency conversion applied to a radio-frequency signal modulated by an analog television signal;

an analog-to-digital circuit configured to generate a digital intermediate signal having said carrier signal at a second intermediate frequency in response to a digitization of said intermediate frequency signal, wherein said second intermediate frequency is above a baseband frequency; and

a converter circuit configured to generate a digital television signal representative of said analog television signal at a said baseband frequency in response to a demodulation of said digital intermediate signal.

2.   (CURRENTLY AMENDED) The apparatus according to claim 1, wherein said converter circuit further comprises:

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a translation circuit configured to generate a digital baseband signal in response to a multiplication of said digital intermediate signal by a <u>single</u> sinusoid signal; and

a decimation circuit configured to generate said digital television signal in response to a decimation of said digital baseband signal.

3. (ORIGINAL) The apparatus according to claim 2, wherein said decimation circuit comprises a decimation filter configured to decimation filter said digital baseband signal.

4. (CURRENTLY AMENDED) The apparatus according to claim ~~2~~ <u>1</u>, wherein said ~~decimation~~ <u>converter</u> circuit comprises:

a first decimation filter configured to generate a first signal in response to ~~a first decimation filtering applied to~~ said digital ~~baseband~~ <u>intermediate</u> signal;

a circuit configured to generate a second signal in response to an image scaling of said first signal by a predetermined ratio; and

a second decimation filter configured to generate said digital television signal in response to ~~a second decimation filtering applied to~~ said second signal.

5.   (CURRENTLY AMENDED) The apparatus according to claim 1, further comprising:

a detector circuit configured to generate a level signal in response to an average level of a horizontal synchronization pulse within said digital intermediate signal~~, and~~

~~a control circuit configured to generate a feedback signal in response to said level signal, wherein said tuner circuit is further configured to adjust an amplitude of said intermediate signal in response to said feedback signal to maintain said average level proximate a predetermined threshold.~~

6.   (CURRENTLY AMENDED) The apparatus according to claim 5, further comprising:

a decimation circuit configured to generate a second level signal in response to a second average level of a second horizontal synchronization pulse within said digital television signal~~, wherein (i) said~~; and

~~a~~ control circuit ~~is further~~ configured to generate ~~said~~ a feedback signal in response to <u>said signal level</u> ~~said second level signal and (ii) said tuner circuit is further configured to adjust said amplitude of said intermediate signal in response to said feedback signal to maintain said second average level proximate said predetermined threshold.~~

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7. (CURRENTLY AMENDED) The apparatus according to claim ~~6~~ 1, wherein ~~(i)~~ said analog-to-digital circuit is further configure to generate a saturation signal in response to a digital conversion saturation while generating said digital intermediate signal, said apparatus further comprising a ~~and (ii) said~~ control circuit ~~is further~~ configured to adjust ~~said~~ a feedback signal in response to said saturation signal ~~in place of said level signal and said second level signal~~.

8. (CURRENTLY AMENDED) The apparatus according to claim 1, wherein said converter circuit comprises:

a phase detector circuit configured to generate an error signal in response to a detection of both a phase error and a frequency error of said digital intermediate signal relative to a sinusoid signal;

a filter circuit configured to generate a feedback signal in response to said error signal;

an oscillator circuit configured to generate a sawtooth signal in response to said feedback signal; and

a lookup table circuit configured to generate ~~said~~ a single sinusoid signal in response to a table look-up conversion of said sawtooth signal.

9.   (CURRENTLY AMENDED) The apparatus according to claim
~~8~~ 1, further comprising a tracking detector circuit configured to
generate an enable signal in response to a tracking of a horizontal
synchronization signal within said digital intermediate signal,

5   wherein said <u>converter circuit includes a</u> filter circuit ~~is further~~
configured to generate ~~said~~ <u>a</u> feedback signal in response to said
enable signal.

10.   (CURRENTLY AMENDED) A method of demodulating a
radio-frequency signal modulated by an analog television signal,
the method comprising the steps of:

(A)   generating an intermediate frequency signal having

5   a carrier signal at a first intermediate frequency in response to
a first frequency conversion applied to said radio-frequency
signal;

(B)   generating a digital intermediate signal having said
carrier signal at a second intermediate frequency in response to a

10   digitization of said intermediate frequency signal<u>, wherein said
second intermediate frequency is above a baseband frequency</u>; and

(C)   generating a digital television signal
representative of said analog television signal at ~~a~~ <u>said</u> baseband
frequency in response to demodulating said digital intermediate

15   signal.

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11.   (CURRENTLY AMENDED) The method according to claim 10, wherein step (C) comprises the sub-steps of:

generating a digital baseband signal in response to a multiplication of said digital intermediate signal by a <u>single</u> sinusoid signal; and

generating said digital television signal in response to a decimation of said digital baseband signal.

12.   (ORIGINAL) The method according to claim 11, wherein generating said digital television signal comprises the sub-step of decimation filtering said digital baseband signal.

13.   (CURRENTLY AMENDED) The method according to claim 11, wherein generating said digital television signal comprises the ~~sub-steps~~ <u>sub-step</u> of:

generating a first signal in response to a first decimation filtering applied to said digital baseband signal~~,~~

~~generating a second signal in response to an image scaling of said first signal by a predetermined ratio; and~~

~~generating said digital television signal in response to a second decimation filtering applied to said second signal.~~

14.   (CURRENTLY AMENDED) The method according to claim 10, further comprising the ~~steps~~ <u>step</u> of:

generating a level signal in response to an average level of a horizontal synchronization pulse within said digital

5   intermediate signal~~,~~

~~generating a feedback signal in response to said level signal; and~~

~~adjusting an amplitude of said intermediate signal in response to said feedback signal to maintain said average level~~

10   ~~proximate a predetermined threshold~~.

15.   (CURRENTLY AMENDED) The method according to claim 14, further comprising the steps of:

generating a second level signal in response to a second average level of a second horizontal synchronization pulse within

5   said digital television signal;

generating ~~said~~ <u>a</u> feedback signal in response to said second level signal; and

adjusting ~~said~~ <u>an</u> amplitude of said intermediate signal in response to said feedback signal to maintain said second average

10   level proximate ~~said~~ <u>a</u> predetermined threshold.

16.   (CURRENTLY AMENDED) The method according to claim ~~15~~ <u>10</u>, further comprising the steps of:

generating a saturation signal in response to a digital conversion saturation while generating said digital intermediate signal; and

adjusting ~~said~~ a feedback signal in response to said saturation signal ~~in place of said level signal and said second level signal~~.

17. (CURRENTLY AMENDED) The method according to claim 10, further comprising the steps of:

generating an error signal in response to a detection of <u>both</u> a phase error and a frequency error of said digital intermediate signal relative to a sinusoid signal;

generating a feedback signal in response to said error signal;

generating a sawtooth signal in response to said feedback signal; and

generating ~~said~~ <u>a single</u> sinusoid signal in response to a table look-up conversion of said sawtooth signal.

18. (CURRENTLY AMENDED) The method according to claim ~~17~~ <u>10</u>, further comprising the ~~step~~ <u>steps</u> of<u>:</u>

generating an enable signal in response to a tracking of a horizontal synchronization signal within said digital intermediate signal~~, wherein~~<u>; and</u>

generating ~~said~~ a feedback signal ~~is further~~ in response to said enable signal.

19. (CURRENTLY AMENDED) An apparatus comprising:

means for generating an intermediate frequency signal having a carrier signal at a first intermediate frequency in response to a first frequency conversion applied to a radio-frequency signal modulated by an analog television signal;

means for generating a digital intermediate signal having said carrier signal at a second intermediate frequency in response to a digitization of said intermediate frequency signal, wherein said second intermediate frequency is above a baseband frequency; and

means for generating a digital television signal representative of said analog television signal at ~~a~~ said baseband frequency in response to demodulating said digital intermediate signal.

20. (NEW) The method according to claim 13, wherein generating said digital television signal further comprises the sub-step of:

generating a second signal in response to an image scaling of said first signal by a predetermined ratio.

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21. (NEW) The method according to claim 20, wherein generating said digital television signal further comprises the sub-step of:

generating said digital television signal in response to
5 a second decimation filtering applied to said second signal.

22. (NEW) The method according to claim 14, further comprising the step of:

generating a feedback signal in response to said level signal.

23. (NEW) The method according to claim 22, further comprising the step of:

adjusting an amplitude of said intermediate signal in response to said feedback signal to maintain said average level
5 proximate a predetermined threshold.